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EXAMINER
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PUENTE, EMERSON C

ART UNIT	PAPER NUMBER
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2113

DATE MAILED: 04/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/721,064

Applicant(s)

TALAGALA ET AL.

Examiner

Emerson C Puente

Art Unit

2113

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

Claims 1-31 have been examined.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2,6,12,13,15,16,18-26, and 28-31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over "RaQ a fine low cost Web server alternative" by Kevin Railsback, referred hereinafter "Railsback" in view of US Patent No. 4,602,164 of Gore, III et al. referred hereinafter "Gore".

In regards to claim 1, Railsback discloses:

- a processor (see page 1);
- a system memory coupled to said processor (see page 2);
- a network interface for connecting to a network (see page 2);
- one or more drive controllers coupled to the processor (see page 2); and
- an array of disk drives coupled to said one or more drive controllers and configured to be organized into one or more RAID logical volumes and presented to client machines as one or more filesystems through said network interface (see page 2)

However, Railsback fails to explicitly disclose

wherein said processor, said system memory, and said network interface, said one or more drive controllers, and said array of disk drives are packaged as a single field replaceable unit (FRU) so that said processor, said system memory, said network interface, said one or more drive controllers, and said array of disk drives are configured not to be individually field replaceable

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Gore discloses FRUs enables fixing machine problem by replacing the defective FRU with a non-defective one, thus eliminating the need of services of customer engineers, which in turn alleviates cost problems (see column 1 lines 38-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Railsback and Gore. A person of ordinary skill in the art would have been motivated to make the combination because Railsback is concerned with cost (see page 1) and having said processor, said system memory, and said network interface, said one or more drive controllers, and said array of disk drives are packaged as a single field replaceable unit (FRU) so that said processor, said system memory, said network interface, said one or more drive controllers, and said array of disk drives are configured not to be individually field replaceable, as per teaching of Gore, alleviates cost problems by eliminating the need of services of customer engineers because machine problem are fixed by replacing defective FRU with a non-defective one.

In regards to claim 2, Railsback discloses wherein said processor, said system memory, said network interface, and said one or more drive controllers, and said array of disk drives are attached to said motherboard so as not to be field replaceable (see page 1).

In regards to claim 6, Railsback in view of Gore fails to explicitly disclose wherein said array of disk drives are configured to provide storage for at least a quarter of a terabyte of data in said single field replaceable unit. However, as technology is evolving, systems are becoming faster and storage capabilities are continuing to increase in size. Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to have storage space capability to at least a quarter of a terabyte in said single field replacement unit.

In regards to claim 12, Railsback discloses wherein said single field replaceable unit is configured to provide office network services including issuing IP addresses to client machines, web page server services, and electronic mail services for client machines (see page 2)

In regards to claim 13, Railsback in view of Gore discloses wherein the number of physical disk drives is fixed in said single field replaceable unit so that additional physical disk drives cannot be added to said single field replaceable unit in the field because Gore discloses FRUs and FRUs are fixed unit which cannot be modified in the field (see column 1 lines 35-45).

In regards to claim 15, Railsback discloses:

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one or more processors (see page 1)

a network interface coupled to said one or more processors (see page 2);

an array of disk drives coupled to said one or more processors and said network interface, wherein said array of disk drives is configured to be provided as one or more filesystems through said network interface (see page 2);

a network coupled to said network interface of said single field replaceable unit (see page 2);

one or more client machines coupled to said network and configured to access over said network said one or more filesystems provided by said array of disk drives within said single field replaceable unit (see page 2);

However, Railsback fails to disclose:

wherein said processor, said network interface, and said array of disk drives are configured not to be individually field serviceable or field replaceable;

Gore discloses FRUs enables fixing machine problem by replacing the defective FRU with a non-defective one, thus eliminating the need of services of customer engineers, which in turn alleviates cost problems (see column 1 lines 38-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Railsback and Gore. A person of ordinary skill in the art would have been motivated to make the combination because Railsback is concerned with cost (see page 1) and having said processor, said network interface, and said array of disk drives are configured not to be individually field serviceable or field replaceable, as per teaching of Gore, alleviates cost problems by eliminating the need of services of customer engineers because machine problem are fixed by replacing defective FRU with a non-defective one.

In regards to claim 16, Railsback discloses wherein said array of disk drives within said single field replaceable unit are configured into RAID logical volumes (see page 2)

In regards to claim 18, Railsback in view of Gore fails to explicitly disclose wherein said array of disk drives are configured to provide storage for at least a quarter of a terabyte of data in said single field replaceable unit. However, as technology is evolving, systems are becoming faster and storage capabilities are continuing to increase in size. Thus, it would have been

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obvious for one of ordinary skill in the art at the time the invention was made to have storage space capability to at least a quarter of a terabyte in said single field replacement unit.

In regards to claim 19, Railsback discloses wherein said single field replaceable unit is configured to provide office network services including issuing IP addresses to client machines, web page server services, and electronic mail services for client machines (see page 2)

In regards to claim 20, Railsback in view of Gore discloses wherein the number of physical disk drives is fixed in said single field replaceable unit so that additional physical disk drives cannot be added to said single field replaceable unit in the field because Gore discloses FRUs and FRUs are fixed unit which cannot be modified in the field (see column 1 lines 35-45).

In regards to claim 21, Railsback discloses a storage rack having multiple ones of said single field replaceable unit coupled together over said network (see page 3)

In regards to claim 22, Railsback discloses:

processor, network interface, and array of disk drives (see page 2)

wherein said processor, said network interface, and said array of disk drives are configured to provide one or more filesystems to client machines through said network interface (see page 2)

preinstalling software on said single field replaceable unit configurable to organize said array of disk drives into one or more RAID logical volumes to be presented to client machines as one or more filesystems through said network interface. Railsback discloses a RAID storage(see page 2), thus would be inherent to preinstall software on a single field replaceable unit in order to organize said array of disk drives in one or more RAID logical volumes;

after said assembling and said preinstalling, shipping said single field replaceable unit to a user. It would be inherent after assembling and preinstalling, to ship said field replaceable unit in order for the user to receive the unit; and

However, Railsback fails to disclose:

assembling a processor, network interface and array of disk drives as a single field replaceable unit (FRU) so that said processor, said network interface, and said array of disk drives are configured not to be individually field serviceable or field replaceable, and

replacing said single field replaceable unit as a whole upon failure, wherein said single field replaceable unit has no serviceable internal parts

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Gore discloses FRUs enables fixing machine problem by replacing the defective FRU with a non-defective one, thus eliminating the need of services of customer engineers, which in turn alleviates cost problems (see column 1 lines 38-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Railsback and Gore. A person of ordinary skill in the art would have been motivated to make the combination because Railsback is concerned with cost (see page 1) and assembling a processor, network interface and array of disk drives as a single field replaceable unit (FRU) so that said processor, said network interface, and said array of disk drives are configured not to be individually field serviceable or field replaceable, as per teaching of Gore, alleviates cost problems by eliminating the need of services of customer engineers because machine problem are fixed by replacing defective FRU with a non-defective one.

In regards to claim 23, Railsback in view of Gore discloses wherein the storage capacity of said single field replaceable unit is not individually upgradeable because Gore discloses FRUs and FRUs are fixed unit which cannot be modified in the field (see column 1 lines 35-45). Furthermore, Railsback discloses upgrading the computer resources by the user installing one or more additional ones of said field replaceable unit (see page 3).

In regards to claim 24, Railsback discloses providing computer resources, comprising:  
configuring a plurality of field replaceable storage units in an enclosure, wherein each field replaceable storage unit comprises an array of hard drives and is configured to make the hard drives available on a network (see page 2)

However, Railsback fails to disclose:

detecting a failure in one of the field replaceable storage units  
replacing as a whole the field replaceable unit having the failure

Gore discloses FRUs enables fixing machine problem by replacing the defective FRU with a non-defective one, thus eliminating the need of services of customer engineers, which in turn alleviates cost problems (see column 1 lines 38-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Railsback and Gore. A person of ordinary skill in the art would have been motivated to make the combination because Railsback is concerned with cost (see page 1) and detecting a failure in one of the field replaceable storage units and replacing as a

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whole the field replaceable unit having the failure, as per teaching of Gore, alleviates cost problems by eliminating the need of services of customer engineers because machine problem are fixed by replacing defective FRU with a non-defective one.

In regards to claim 25, Railsback discloses expanding the computing resources by adding one or more additional field replaceable storage units to the enclosure, wherein each additional field replaceable storage unit comprises an array of hard drives and is configured to make the hard drives available on the network (see page 3).

In regards to claim 26, Railsback discloses wherein the array of hard drives within field replaceable storage units is configured into RAID logical volumes (see page 2).

In regards to claim 28, Railsback in view of Gore fails to explicitly disclose wherein said field replaceable storage unit is configured to provide storage for at least a quarter of a terabyte of data. However, as technology is evolving, systems are becoming faster and storage capabilities are continuing to increase in size. Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to have storage space capability to at least a quarter of a terabyte in said single field replacement unit.

In regards to claim 29, Railsback in view of Gore discloses wherein the number of hard drives of each array of hard drives is fixed in said single field replaceable unit so that additional physical disk drives cannot be added to individual replaceable unit in the field because Gore discloses FRUs and FRUs are fixed unit which cannot be modified in the field (see column 1 lines 35-45).

In regards to claim 30, Railsback discloses a system comprising:

an enclosure configured to hold a plurality of individual field replaceable storage units (see page 3)

one or more processors (page 1); and

an array of disk drives coupled to said one or more processors, wherein said processor and said array of disk drives are configured to provide one or more filesystems to a network (see page 2)

wherein said enclosure is configured so that each individual field replaceable storage unit is individually removable or insertable (see page 3),

However, Railsback fails to disclose:



wherein each individual field replaceable unit is configured so that said one or more processors and said array of disk drives are configured not to be individually field serviceable or field replaceable so that failed one of said individual field replaceable storage units are replaced in said enclosure as a whole.

Gore discloses FRUs enables fixing machine problem by replacing the defective FRU with a non-defective one, thus eliminating the need of services of customer engineers, which in turn alleviates cost problems (see column 1 lines 38-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Railsback and Gore. A person of ordinary skill in the art would have been motivated to make the combination because Railsback is concerned with cost (see page 1) and having each individual field replaceable unit configured so that said one or more processors and said array of disk drives are configured not to be individually field serviceable or field replaceable so that failed one of said individual field replaceable storage units are replaced in said enclosure as a whole, as per teaching of Gore, alleviates cost problems by eliminating the need of services of customer engineers because machine problem are fixed by replacing defective FRU with a non-defective one.

In regards to claim 31, Railsback discloses:

- a processor (see page 1);
- a system memory coupled to said processor (see page 2);
- a network interface for connecting to the network (see page 2);
- one or more drive controllers coupled to the processor(see page 2); and
- an array of disk drives coupled to said one or more drive controllers and configured to be organized into one or more RAID logical volumes and presented client machines as one or more filesystems through said network interface (see page 2)

However, Railsback fail to explicitly disclose:

wherein said processor, said system memory, said network interface, said one or more drive controllers, and said array of disk drives are packaged as a field replaceable unit (FRU), wherein said field replaceable unit is sealed to prevent said processor, said system memory, said network interface, said one or more drive controllers, and said array of disk drives from being separately field replaceable.

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Gore discloses FRUs enables fixing machine problem by replacing the defective FRU with a non-defective one, thus eliminating the need of services of customer engineers, which in turn alleviates cost problems (see column 1 lines 38-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Railsback and Gore. A person of ordinary skill in the art would have been motivated to make the combination because Railsback is concerned with cost (see page 1) and having said processor, said system memory, said network interface, said one or more drive controllers, and said array of disk drives are packaged as a field replaceable unit (FRU), wherein said field replaceable unit is sealed to prevent said processor, said system memory, said network interface, said one or more drive controllers, and said array of disk drives from being separately field replaceable, as per teaching of Gore, alleviates cost problems by eliminating the need of services of customer engineers because machine problem are fixed by replacing defective FRU with a non-defective one.

Claims 3, 4, and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Railsback in view of Gore and in further view of US Patent No. 5,812,754 of Lui et al. referred hereinafter "Lui".

In regards to claim 3, Railsback in view of Gore fails to explicitly disclose one or more fans configured to flow air over said array of disk drives and said processor, wherein said one or more fans are packaged as part of said single field replaceable unit and are configured not to be individually field serviceable or field replaceable.

However, Lui discloses a RAID system including one or more fans and configured to flow air over said array of disk drives and said processor (see figure 7 and column 3 lines 50-55)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have one or more fans configured to flow air over said array of disk drives and said processor, wherein said one or more fans are packaged as part of said single field replaceable unit and are configured not to be individually field serviceable or field replaceable. A person of ordinary skill in the art would have been motivated to make the modification because fans would provide cooling for the data storage system, as per teaching of Lui.

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In regards to claim 4, Lui discloses wherein said one or more fans comprise a row of fans positioned between array of disk drives and said processors (see figure 7).

In regards to claim 7, Railsback in view of Gore fails to disclose a power supply configured to supply power to said processor, said system memory, said network interface, said one or more drive controllers, and said array of disk drives, wherein said power supply is part of said single field replaceable unit and is configured not to be individually field serviceable or field replaceable.

However, Lui discloses a power supply configured to supply power to said processor, said system memory, said network interface, said one or more drive controllers, and said array of disk drives, (see figure 7 and column 3 lines 50-55)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to a power supply configured to supply power to said processor, said system memory, said network interface, said one or more drive controllers, and said array of disk drives. A person of ordinary skill in the art would have been motivated to make the modification because a power supply, as per teachings of Lui, would supply power to the storage system, enabling the storage system to function.

Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Railsback in view of Gore and in further view of Lui and Microsoft Computer Dictionary 3<sup>rd</sup> edition referred hereinafter as "Microsoft".

In regards to claims 5, 17, and 27, Railsback in view of Gore fails to disclose wherein said one or more drive controllers comprise four ATA-type drive interfaces, and wherein said array of disk drives comprises eight ATA-type disk drives

Lui discloses wherein said one or more drive controllers comprise four drive interfaces, and wherein said array of disk drives comprises eight disk drives.

It would have been obvious to one of ordinary skill in the art at the time the invention was made wherein said one or more drive controllers comprise four drive interfaces, and wherein said array of disk drives comprises eight disk drives. A person of ordinary skill in the art would have been motivated because Railsback discloses a RAID system (see page 2) and Lui teaches a

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RAID wherein said one or more drive controllers comprise four drive interfaces, and wherein said array of disk drives comprises eight disk drives

Furthermore, Microsoft discloses ATA as type of disk drive which reduces interface cost and making firmware implementation easier (see page 34 "ATA/IDE hard disk drive").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have ATA-type drive interfaces, and wherein said array of disk drives comprises ATA-type disk drives. A person of ordinary skill in the art would have been motivated because ATA type disk drives reduces interface cost and further makes firmware implementation easier, as per teaching of Microsoft.

Claims 8-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Railsback in view of Gore and in further view of US Patent No. 6,230,190 of Edmonds et al. referred hereinafter "Edmonds".

In regards to claim 8, Railsback discloses wherein said processor is configured to execute a UNIX-type operating system (see page 2).

However, Railsback in view of Gore fails to explicitly disclose:  
presenting said array of disk drives as a Network File System (NFS) or Common Internet File System (CIFS) filesystem to a network through said network interface so that the filesystem can be mounted by client machines.

Edmonds discloses wherein Microsoft-based and UNIX based systems use CIFS and NFS, respectively for file sharing protocol (see column 4 lines 30-40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to present said array of disk drives as a Network File System (NFS) or Common Internet File System (CIFS) filesystem to a network through said network interface so that the filesystem can be mounted by client machines. A person of ordinary skill in the art would have been motivated because Network File System (NFS) or Common Internet File System (CIFS) are known protocols that provide file sharing in a file system, as per teaching of Edmonds (see column 4 lines 30-40).

In regards to claim 9, Edmonds discloses wherein the filesystem is configured to be accessible by UNIX clients or Window clients (see column 4 lines 30-40).

In regards to claim 10, Railsback discloses wherein said processor is configured to execute a Linux-type operating system.

However, Railsback in view of Gore fails to explicitly disclose:

presenting said array of disk drives as a Network File System (NFS) or Common Internet File System (CIFS) filesystem to a network through said network interface so that the filesystem can be mounted by client machines.

Edmonds discloses wherein Microsoft-based and UNIX based systems use CIFS and NFS, respectively for file sharing protocol (see column 4 lines 30-40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to present said array of disk drives as a Network File System (NFS) or Common Internet File System (CIFS) filesystem to a network through said network interface so that the filesystem can be mounted by client machines. A person of ordinary skill in the art would have been motivated because Network File System (NFS) or Common Internet File System (CIFS) are known protocols that provide file sharing in a file system, as per teaching of Edmonds (see column 4 lines 30-40).

In regards to claim 11, Edmonds discloses wherein the filesystem is configured to be accessible by UNIX clients or Window clients (see column 4 lines 30-40).

Claim 14 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Railsback in view of Gore and in further view of US Patent No. 5,663,868 of Stalley et al. referred hereinafter "Stalley".

In regards to claim 14, Railsback in view of Gore fails to explicitly disclose wherein said single field replaceable unit is configured to be rack-mounted and has a height less than or equal to 1.75 inches.

However, Stalley discloses standard dimension for cabinets stacked vertically is in multiples of 1.75 inches (see column 1 lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have each single field replaceable unit configured to be rack-mounted and has a height less than or equal to 1.75 inches. A person of ordinary skill in the art would have been motivated to make the modification because a rack mount wherein each unit has a height of 1.75

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inches is an internationally agreed dimensions, thus being a standard, as per teaching of Stalley (see column 1 lines 10-15).

Claims 17 and 27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Railsback in view of Gore and in further view of Microsoft Computer Dictionary 3<sup>rd</sup> edition referred hereinafter as "Microsoft".

Railsback in view of Gore fails to disclose wherein said array of disk drives within said single field replaceable unit are ATA-type disk drives.

Microsoft discloses ATA as type of disk drive which reduces interface cost and making firmware implementation easier (see page 34 "ATA/IDE hard disk drive").

It would have been obvious to one of ordinary skill in the art at the time the invention was made wherein said array of disk drives within said single field replaceable unit are ATA-type disk drives. A person of ordinary skill in the art would have been motivated to make the modification because ATA type disk drives reduces interface cost and further makes firmware implementation easier, as per teaching of Microsoft.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See Form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Emerson Puente, whose telephone number is (703) 305-8012. The examiner can normally be reached on Monday-Friday from 8:00AM- 5:00PM, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Robert Beausoliel*, can be reached on (703) 305-9713 or via e-mail addressed to *[robert.beausoliel@uspto.gov]*. The fax number for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.


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Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [emerson.puente@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 305-3900.

**Emerson Puente**  
4/7/04

  
ROBERT BEAUSOLIEL  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100